

Ripley 1983). This species did not figure among the 93 confirmed species and 4 probable species that Koelz (1937) recorded for the entire Spiti area.

We wish to record an altitudinal extension of this species, one individual of which was observed in August 1995, at an altitude of 4050 m, in Pin Valley National Park, in the Trans-Himalayan Spiti region of Himachal Pradesh. The bird was seen in the vicinity of a riverine patch of willow (*Salix* sp.) in the Chohyam area of the National Park. Local people also did not

recollect having seen such a bird before. The species is not a migrant, and it is therefore improbable that it landed in the area *en route*.

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### 7. THE PAINTED SPURFOWL *GALLOPERDIX LUNULATA* VALENCIENNES IN RANTHAMBHORE NATIONAL PARK, RAJASTHAN

In the *JBNHS* Vol. 93 No. 1, there is mention by Shantanu Kumar on the occurrence of the painted spurfowl in the Ramgarh Sanctuary of Bundi dist., Rajasthan, and by Ashok Kumar Sharma on the occurrence of this bird in the Jamwa Ramgarh Sanctuary in Jaipur dist., as also in the Ranthambhore National Park and its adjacent sanctuaries.

I have also watched a pair of painted spurfowl at close quarters and was able to take a number of photographs of them in the Ranthambhore National Park in 1989. However, this appears to be a disjointed occurrence of this bird and these adjacent protected areas may perhaps even hold a relict population of this spurfowl, since there are no reports of it in

southern Rajasthan or eastern Rajasthan, or even in the adjacent areas of Madhya Pradesh. The nearest population of this bird that I know of is in the Satpura National Park of Madhya Pradesh, below the Pachmarhi massif. It would be interesting to know whether any other sightings of the painted spurfowl have occurred in Rajasthan outside this 'belt' starting from Ramgarh Sanctuary in Bundi to the Kailadevi Sanctuary in Karauli dist., or in the forests of northwestern Madhya Pradesh.

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### 8. MORE ON THE LESSER FLORICAN *SYPHEOTIDES INDICA* AT ROLLAPADU WILDLIFE SANCTUARY, KURNOOL DISTRICT, ANDHRA PRADESH

The Rollapadu Wildlife Sanctuary (area: 6.14 km<sup>2</sup>), Kurnool dist., Andhra Pradesh was set up in 1982 to protect the great Indian bustard *Ardeotis nigriceps*. The Sanctuary consists of three grazing and disturbance free grassland plots

(called enclosures by the Forest Department), which are surrounded by grazing lands and crop fields of the villages that border it. However, due to demands from the local graziers, only the main enclosure (Enclosure-I: 320 ha) is well

protected. Enclosure-II (40 ha) may be protected for some periods or years, while Enclosure-III (120 ha) is totally unprotected. For more details regarding the Sanctuary, see Manakadan and Rahmani (1989, 1993).

According to Sankaran and Manakadan (1990), the lesser florican *Sypheotides indica* 'winters' in Rollapadu Wildlife Sanctuary (RWS) area, and may even breed if rains fail in their breeding grounds in Madhya Pradesh and Gujarat. They gave further details of the occurrence of the lesser florican at RWS. In this paper, we provide additional information on sightings of the lesser florican at RWS during our studies (July 1992 to December 1994) under the Grassland Ecology Project of the BNHS, funded by the U.S. Fish & Wildlife Service.

#### Habitat Preference

During the present studies, the floricans were very partial to Enclosure-I. They were not recorded in the grazing lands or Enclosure-III, and there was one sighting in Enclosure-II, when it was protected in 1992. Within Enclosure-I, which is dominated by the *ca.* 50 cm tall *Heteropogon contortus*-*Eremopogon foveolatus*-*Chrysopogon fulvus* grass community, the birds did not keep far from tall grass stands of *Sehima nervosum* or *Cymbopogon caesius* (100-150 cm). Thus, the presence of these two grass species in patches is important for the florican at RWS, which was also observed during the earlier study.

#### Seasonality population, territories and breeding at RWS

In years when breeding did not occur at Rollapadu (1993 and 1994), floricans arrived in January/February in their eclipse plumage. The birds were seen off and on, and by mid-June, the cocks attained their full breeding plumage, and then disappeared suddenly. During 1992, the birds were recorded during July-December (monsoon: southwest and northeast monsoons), which is the breeding season of the florican in their breeding grounds in Gujarat and Madhya Pradesh.

The number of birds recorded during 1992-1994 varied. More males, or sightings of males, were recorded than females for all the years. This is probably due to the fact that males frequent territories and attain a striking breeding plumage during mid-May to June, and hence are relatively more conspicuous than females (in spite of the skulking habits of both the sexes). The year-wise sightings are discussed below.

1992: The first signs of the florican appeared in July with the presence of feathers in Enclosure-I. In October, two cocks were seen displaying on a few occasions at two sites. These two sites were also the display sites of cocks in 1987 (when breeding was recorded). Another cock (non territorial) was also sighted. After 30th October, there were no signs of the displaying birds. By the end of October and early November, four sightings of solitary females were recorded in different areas of Enclosure-I (3 sightings) and Enclosure-II (1 sighting). The only sighting after that was of a male in eclipse plumage in mid-November and a female in mid-December.

Nests were not located, but judging by their stay in the off-season, display activity by males, and the fact that locating nests of floricans is extremely difficult, it is possible that the birds had bred that year. Also, rainfall was reportedly deficient in their breeding grounds in Madhya Pradesh and Gujarat that year, as was the case in 1987, when breeding was recorded at RWS.

1993: Both males and females were occasionally flushed in January and February. During one of these sightings, two females were seen together. After February, there was no sighting, except for a female in May. In June, two cocks were seen frequenting two sites (one of which was also used during 1992). Single sightings of two other males were also recorded. By the end of June, both the territorial males had attained their breeding plumage. In June, another bird (sex uncertain) was also flushed once in the enclosure. We were absent from the study area in July, and the next and

only sightings were in October. On two occasions, we saw a male in eclipse plumage frequenting a display site of 1987.

1994: The first signs were the presence of feathers towards the end of February. There were three sightings (sex uncertain) in March and April. On 25th April, two cocks were sighted. On our return in May after two weeks' absence, nine florican males in partial breeding plumage were seen in different parts of Enclosure-I. Four of these sites were territories held during 1987, and/or 1992 and 1993. At this time, a hen was also sighted. These birds were present till mid-June, by which time they attained their breeding plumage, and disappeared.

## CONCLUSION

Rollapadu appears to be a regular wintering ground of the lesser florican. The birds may also breed at RWS if rains fail in their breeding grounds in Gujarat and Madhya Pradesh, as suggested by Sankaran and Manakadan (1990). Incidentally, the numbers of demoiselle cranes *Anthropoides virgo* and barheaded geese *Anser indicus* wintering in the Rollapadu area each year was found to be influenced by the quantum of rains in Gujarat.

It was observed during our two study periods that during years when rainfall was low in Gujarat, as many as 10,000 cranes and about 500 geese arrive (e.g. in 1992), but if the rains are good in Gujarat, then very low numbers arrive, or the birds may not arrive at all, as in 1994.

A few sites within the enclosure were frequented and defended by cock floricans year after year, which may serve either as their breeding or wintering territories. Attainment of full breeding plumage by males prior to their migration (presumably to their breeding grounds in Gujarat and Madhya Pradesh) was observed during this study. In 1994, a population of not less than 10 birds (9 cocks and 1 hen) was recorded, which is the maximum number counted during both the studies. Lastly, since the observations showed that the florican is partial to tall grass cover, and uses the area during winter and summer, burning of the grass (whether due to accident, vandalism or as a management tool) would be detrimental for the lesser florican.

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## 9. THE OCCURRENCE OF COLLARED PRATINCOLE OR SWALLOW PLOVER *GLAREOLA PRATINCOLA* (LINN.) IN KUTCH

We are concerned with two races of the collared pratincole in the Subcontinent: the partly resident and mainly migratory nominate race, and *Glareola pratincola maldivarum*. This note

concerns the former, which breeds sparingly in Pakistan and straggles into India and even to Sri Lanka. According to Roberts (1991) it is a common, summer-breeding visitor in lower Sind